Concentrated phosphorus fertilizers are disclosed that comprise a buffered composition of an organic acid and salts thereof and a phosphorous-containing acid and salts thereof. The concentrated phosphorus fertilizers can be diluted with water of pH ranging from about 6.5 to about 8.5 at ratios of concentrate to water at about 1:40 to about 1:600 to result in a fertilizer having a pH in the range acceptable for foliar uptake of phosphorus.